



COUNTY BOROUGH OF BLACKBURN

EDUCATION COMMITTEE

ANNUAL REPORT

UPON THE

SCHOOL HEALTH SERVICE

For the Year 1964

By

J. ARDLEY, M.B., B.S., D.P.H.

Principal School Medical Officer



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EDUCATION COMMITTEE

1964 - 65

THE MAYOR

(Mr. Councillor F. W. Bramwell, J.P.)

Mr. Alderman	G. B.	EDDIE, O.B.E., J.P.
"	W. A.	HENSHALL, M.C. (Vice-Chairman)
Alderman Mrs.	M. A.	McNAMEE
Mr. Alderman	R. F.	MOTTERSHEAD, C.B.E., J.P.
"	J.	STIRRUP, O.B.E., F.R.S.A.
Mr. Councillor	R. C.	BALDWIN
"	A.	CARUS
"	L.	EDWARDS
"	T.	ELLIS
"	J.	GOULD
"	F.	HULME
"	F.	JAMIESON
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Councillor Mrs.	E.	RAILTON
Mr. Councillor	G. M.	ROBERTS
"	T.	TAYLOR (Chairman)
The Rev.	A. T.	HUBBARD
" "	R.	SLEVIN
The Rev. Canon	L. E. H.	SWAN
	J.	ROTHWELL, Esq.
	J.	BOLTON, Esq.
	H.	GREEN, Esq.

OFFICERS EMPLOYED IN THE SCHOOL HEALTH SERVICE

Principal School Medical Officer

J. ARDLEY, M.B., B.S., D.P.H.

Deputy Principal School Medical Officer

J. Q. MOUNTAIN, B.Sc., M.D., D.P.H.

School Medical Officers

BERYL SEPHTON, M.B., Ch.B., D.P.H.

L. P. GRIME, L.R.C.P.I. & L.M., L.R.C.S.I. & L.M., D.P.H., M.N.Y.A.S.

S. V. JOSHI, M.B., B.S., D.C.H.

SARAH M. JOSEPH, M.B., B.S., D.R.C.O.G., D.P.H.

Assistant Medical Officers (Part-time)

E. CARTER, M.D., D.P.H.

C. Y. HOWARTH, M.B., Ch.B.

MARGARET S. GIBBOURNE, M.B., Ch.B.

Part-time Consultant Medical Officers

J. EVANS, M.D., F.R.C.S., (Oto-Rhinology)

R. WARD, M.D., M.R.C.P. (Chest Physician)

P. R. STEVENS, M.R.C.S., L.R.C.P., D.O., (Ophthalmology)

Part-time Consultant Orthodontist

L. C. G. HODGKINS, L.D.S.

Dental Officers

J. RIGBY, L.D.S., Principal School Dental Officer

J. GREGSON, B.D.S.

Part-time Dental Officers

MRS. M. C. S. CODLING, B.D.S., L.D.S.

Superintendent Nursing Officer

MISS L. M. BROWN

(S.R.N., S.C.M., H.V. Cert., Cert. R.S.H.)

Medico-Social Work, Health Visiting and Clinic Nursing

Medico-Social Workers	17
Health Visitor/School Nurses	10
Clinic Nurses (inc. part-time)	5

Physiotherapy

Senior Physiotherapist	Mrs. M. Kempton, C.S.P.
Physiotherapists	1
	1 part-time

Orthoptists

Miss A. Greenwood D.B.O.
1 part-time (from Aug)

Dental Attendants

Senior Dental Attendant	Miss L. E. Walsh
Attendants	2 (1 part-time)

Clinic Attendants

2

Speech Therapist

Mrs. K. S. Stourton (from Oct)

Public Health Department,
Victoria Street,
Blackburn.
July, 1965.

Mr. Chairman, Ladies and Gentlemen,

Herewith my sixth Annual Report and 59th of the series on the work of the School Health Service during 1964.

It is the sixtieth Anniversary of the submission of the report of the "Inter-departmental Committee on Physical Deterioration 1904", a report which recommended the bringing into being of a School Medical and Dental Inspection Service amongst other recommendations and was, therefore, instrumental in legislating into being the first of the "personal" health services after half a century of obsession with "environment".

It is noteworthy that after 60 years some of the original recommendations of this far-sighted Committee have not yet been fully implemented. This sadly represents 60 years of missed opportunity which, had it been taken, would have reaped the highest dividends in terms of the stability, efficiency and happiness of the basic unit of society, namely, the family.

I refer, of course, to "Preparation for Citizenship"; a training/educational concept which would prepare successive generations of senior boys and girls for family life in society, would give them insight into the problems peculiar to making a home, bringing up children in all its ramifications and integrating the family into the community. The last great opportunity to develop this theme was when the compulsory school age was raised from 14 to 15 years, the next will be when some form of comprehensive schooling is established and then again when the school age is raised to 16 years. Certainly a really imaginative scheme of training would make a worthwhile contribution to eliminating some juvenile delinquency, to breaking the chain of events which perpetuates the problem family, and to creating a more receptive climate for health education.

Having thus commented on the errors of omission, I would like to present some of the more successful features of the School Health Services in the statistical milestones of six decades.

Table 1 shows the deaths in 1904 due to certain infectious diseases in the under-15 age group as compared with 1964.

TABLE 1

	<u>1904</u>	<u>1964</u>
Measles	60	-
Scarlet Fever	13	-
Whooping Cough	96	-
Diphtheria	11	-
Enteric Fever	21 (4 under age 15 years)	-
Diarrhoea	47 (under 15 years)	-
Enteritis	174 (under 15 years)	-
Abdominal Tb	40))
Tb Meningitis	28) 86) 2
Other Tb (Non-Respiratory)	8))
Generalized Tb	10))
Respiratory Tb	122 (15 under age 15 years)	11 (all over age 25 years)
Pneumonia	133 (under 15 years)	8 (under 15 years)
Bronchitis	96 (under 15 years)	2 (under 15 years)
GRAND TOTAL 1904	<u>759</u>	<u>GRAND TOTAL 1964 23</u>
Infantile Death Rate:	192 per 1,000 births	28.3

The following table shows the number of schools deemed necessary to close because of infectious diseases in 1904 and 1964:

TABLE 2

The 1st Annual Report of Dr. Greenwood
(Medical Officer to the Education Committee)

	<u>1904</u>	<u>1964</u>
January:	4 schools closed	-
February:	6 schools closed	-
March:	7 schools closed	-
April:	8 schools closed	-
May:	2 schools closed	-
June:	1 school closed	-
July:	2 schools closed	-
AUGUST HOLIDAY		
September:	-	-
October:	3 schools closed	-
November:	-	-
December:	6 schools closed	-
		Measles
		Measles
		Measles
		Measles
		Measles/Whooping Cough
		Measles/Whooping Cough
		Measles
		Scarlet Fever
		Scarlet Fever
		Scarlet Fever/Chicken Pox/Measles
		Scarlet Fever/Chicken Pox/Measles

NO SCHOOLS CLOSED
FOR INFECTIOUS
DISEASE

During the Measles outbreak in 1904, the Health Visitors visited 1,554 houses in which 2,440 cases of measles occurred and found that only 599 (38.5%) of the houses were attended by a doctor; the remaining 955 had no medical attendant.

An interesting feature of childhood development in the period under review is the variation that has taken place in heights and weights and this is demonstrated in the attached report on the research carried out by Dr. L. P. Grime, one of your Assistant Medical Officers/School Medical Officers. Anthropometric surveys of this character have imposed on them severe limitations of interpretation by virtue of the conditions under which they are carried out. For instance, weighing machines in schools have never conformed to a rigid standard acceptable to Weights and Measures Inspectorate as do those in Infant Welfare Clinics, and the fact that they are transported from school to school or moved about within schools affects their accuracy. It is also not always possible to conform to standard states of undress in all schools and there are variations between winter and summer weighings. When allowances have been made for these inconsistencies it is nevertheless apparent that there is a well-maintained trend in improvement in physique of both girls and boys in which the girls seem to have the lead as shown in Table 3.

TABLE 3.

<u>12 Year Boys</u>			<u>12 Year Girls</u>	
<u>YEAR</u>	<u>HEIGHTS</u>	<u>WEIGHTS</u>	<u>HEIGHTS</u>	<u>WEIGHTS</u>
1907	54.1 ins.	71.1 lbs	54.1 ins.	71.1 lbs
1964	57.5 ins.	85.0 lbs	57.7 ins.	87.7 lbs

In his 1904 Annual Report, Dr. Greenwood described the preparations being made to erect a Special School on a site at the corner of Regent Street and Ainsworth Street to enable education to be provided by specially trained teachers for children who, by virtue of their handicap came within the purview of the Act of 1899 for Epileptic and Mentally Deficient children. This school is described in the report for 1906 as having four class rooms each to accommodate 20 pupils, a dining room and a bathroom and represents the earliest fully reported special school in the Borough.

In the following year The Education (Administrative Provisions) Act 1907 called for the amelioration of "physical unfitness by the setting up of a school medical inspection service as a duty of local education authorities and lifted the pioneering efforts of examination of children selected as being in some way obviously defective or diseased to one of examination of all children to a set pattern as directed by the Board of Education. Special Education for the Deaf, the Blind, the Epileptic and Mentally defective was then available but services to provide therapy and treatment for defects discovered were to be instituted years later under the authority of the 1912 regulations.

1907 also saw a conference of members of the Education Committee and local voluntary agencies to discuss the implications of the Education (Provision of Meals) Act 1906 which empowered the authority either to provide meals to necessitous school children themselves or to arrange such provision by voluntary organisations. By the end of January 1908, 365 children were reported by head teachers to come within the category of need and thereafter cases were reported weekly. From this rather limited beginning the School Meals Service has developed so that in 1964 approximately 10,000 children were fed daily and 111,088 meals were supplied free to necessitous cases in the year. This was apart from the 1,692,553 meals supplied for payment during the year and the 2,559,425 bottles of 1/3 pint each supplied to children free of charge.

In 1904-5 the number of half timers in Blackburn schools was 2,044 (in 1890 it had been 5,300). Their schedule of work and school was that one week the children began work in the mill at 6.0 a.m. and ended at 12.30 p.m. with $\frac{1}{2}$ hour off for breakfast, followed by school from 1.45 p.m. to 4.30 p.m. The next week these children began school at 9.0 a.m. and stayed till 12 noon. After lunch they began work at the mill at 1.30 p.m. and stayed till 5.30 p.m. without a break and worked a Saturday morning shift at the mill. A more efficient barrier to education and health it would be difficult to imagine. In many homes the combined wages of the children exceeded those of father and mother combined, such was the effect of the cotton depression. In 1964 casual employment of child labour, for example, in

distribution of newspapers, was more often undertaken by such children to supplement their own pocket money rather than to contribute by necessity to family income. Indeed, an exploratory survey in 1960 in two schools in Blackburn showed that up to 46% of the 14-15 year olds who took part received 2/7d. - 5/- per week pocket money: 14% received 5/1d. - 7/6d; 9% received 7/7d. - 10/- and 6% received 10/- or more.

The school medical examinations under the new pattern of procedure reached the level of 5,066 examinations in 1909 and during this year the first school nurse was deployed with duties which have persisted with modifications until 1964. It is noteworthy that large numbers of children had defective clothing and footwear and many were of only medium or poor nutrition.

Defects list for entrants group:

Enlarged Neck Glands	-	32.4%
Enlarged Tonsils	-	19.8%
Adenoids	-	15.5%
Dirty and sore heads	-	6.1%
Eye defects	-	5.7%
Speech defects	-	3.5%
Ear defects	-	3.2%
Skin	-	3.1%
Rickets	-	2.0%
Anaemia	-	2.0%

Thus began an era when for the first time a vast amount of information not available from any other sources about the physical condition of children aged 5 - 14 years was sifted and analysed and principles were established for executive action to correct defects either incipient or apparent.

In the period immediately preceding the first World War in 1914, six children were certified as suitable for admission to a Blind school, there being fourteen children in such schools; one child was certified during the year as fit for admission to a school for the Deaf and Dumb, there being fourteen children at such schools during the year; the average number of scholars on the books of the special school at Regent Street for the Mentally Deficient children was seventy-four.

Three Open Air classes were opened in the year 1914 at Bangor Street, Accrington Road and Corporation Park with accommodation for about 25 pupils in each.

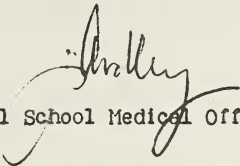
Typhoid fever and diphtheria were commonplace diseases and the other infectious diseases of childhood carried with them very high mortality rates. The clothing of about 2% of the children was classed as bad. It was not uncommon to find pieces of cotton wool stitched inside the underclothes. Fleas and flea-bites were frequently met with (1.2%). Lice on body and clothing found in only 0.5% whereas head-lice and nits were very frequently found to the extent of 16% and some 228 children had to be excluded from school because of head infestation.

For those who wear rose-tinted spectacles, these are some of the facts of the "Good Old Days", and a great debt of gratitude is due to those who with resolution and foresight struggled with the many problems throughout the 60 years to bring us to the much more beneficent conditions of 1964, imperfect as they were.

In conclusion, my thanks to you, Mr. Chairman and Members of the Committee in continuation of this fine tradition for your unstinted support.

I am, Mr. Chairman, Ladies & Gentlemen,

Your obedient Servant,


Principal School Medical Officer

S C H O O L C L I N I C S

DESIGNATION	PURPOSE	WHERE HELD	TIMES
Inspection	Special Examination of Cases referred by Teachers, School Welfare Officers and School Nurses	Richmond Terrace	Wednesday 2.0 p.m. Saturday 9.30 a.m.
Ophthalmic	Prescription of Spectacles	"	Monday 8.30 a.m. Tuesday 2.30 p.m. Thursday 2.30 p.m. (By appointment)
Dental Clinic	Dental Treatment	"	Every week-day (by appointment)
Minor Ailments	Treatment of Minor Diseases of Skin etc.	"	Every week-day at 8.45 a.m.
Cleansing	Treatment of Scabies and Cleansing of Verminous Cases	Blakey Moor	By appointment
Physiotherapy	Treatment of Postural Defects, Sunlight	Richmond Terrace	Every week-day (by appointment)
Immunisation	Immunisation against Whooping Cough, and Diphtheria, and Vaccination against Poliomyelitis	"	Monday, 3.45 p.m. or by appointment
Vaccination	Vaccination against Smallpox Vaccination against Tuberculosis	"	By appointment
Ear, Nose and Throat	Treatment of Deafness, etc.	"	As required (By appointment)
Heart, Rheumatism & Anaemia	Diagnosis and Supervision of cases suffering from Rheumatism and Heart Defects and the investigation of Anaemia	"	By appointment
Audiology	Diagnosis of hearing defects	"	By appointment
Orthoptic	Correction of Strabismus	Victoria Street	Every week-day (By appointment)
Speech	Correction of Speech Defects	St. Peter Street	Every week-day (By appointment)
Chiropody	Treatment of Foot Defects	King Street & Bridge Street	By appointment

C O S T O F S C H O O L H E A L T H S E R V I C E

I am indebted to the Borough Treasurer, Mr. L. Wolstenholme, for the following particulars relating to the cost of the School Health Service during 1963 - 1964.

EXPENDITURE

	£	s	d	£	s	d
Salaries	26,718	2	2			
Fees	1,846	15	2			
Local Government Superannuation						
Employer's Contribution ...	1,436	3	6			
Equal Annual Charge ...	598	1	6			
National Insurances - Employer's						
Contributions	687	17	6			
Staff Training	191	12	1			
Travelling Expenses & Subsistence						
allowances ...	329	19	2			
Printing, Stationery, Postages &	221	16	1			
Telephones, etc.						
Drugs, Medical Requisites and Apparatus	1,851	15	2			
Uniforms	359	1	11			
Rents and Insurances	37	16	8			
Upkeep of Buildings	2,216	6	1			
Medical Inspections - Intending Teachers	238	10	0			
Sundries	1	5	9			
				36,735	2	9

INCOME

Recovered from -						
Blackburn Executive Committee,						
N.H.S. (Sight testing) ...	581	5	0			
Regional Hospital Board						
Orthoptic Clinics ...	335	5	1			
Lancashire County Council -						
Orthoptic Clinics ...	480	0	0			
Services to Health Department -						
Dental Sessions	264	12	0			
Services to Welfare Department -						
Physiotherapy Sessions	306	2	8			
Miscellaneous	12	18	0			
				£ 1,980	2	9
EXPENDITURE LESS INCOME				£34,755	0	0

The rateable value of the Borough on 31st March, 1964, was £3,137,471. The cost of medical inspection and treatment in schools for the twelve months ended 31st March, 1964, was £34,755, compared with £31,060 in the previous year.

This was equivalent to £2. 2. 10d. per child on the school rolls, and expressed as a penny rate was 2.88d.

SCHOOL POPULATION

Particulars of children on the rolls at maintained schools are as follows:

	<u>No. on Rolls</u>
3 Nursery Schools	120
54 Primary School Departments ...	9624
14 Secondary Schools	5685
3 Special Schools	263
	<hr/>
Total	<u><u>15692</u></u>

S E C T I O N O N E

M E D I C A L I N S P E C T I O N

The programme of Routine Medical Inspection, adopted in 1955, has been continued.

The year's findings are set out on pages 14 to 17 whilst Table 1 below shows the numbers of children examined in years of birth of Groups examined.

Table 1

Year of Birth of Groups Examined	WEST DIVISION	EAST DIVISION	Total
1949 and earlier	776	116	892
1950	372	212	584
1951	-	-	-
1952	166	207	373
1953	309	518	827
1954	1	-	1
1955	-	2	2
1956	4	11	15
1957	35	45	80
1958	154	245	399
1959	246	356	602
1960 and later	144	123	267
Totals .. .	2207	1835	4042

ROUTINE MEDICAL INSPECTIONS DURING 1964

(a) Attendance of Parents at Inspection Table 2

Year of Birth of Groups Examined	W E S T			E A S T			COMBINED		
	No. Exam.	Parents Present	%	No. Exam.	Parents Present	%	No. Exam.	Parents Present	%
1949 and earlier	776	39	5.0	116	17	14.5	892	56	6.2
1950	372	27	7.2	212	34	16.0	584	61	10.4
1951	-	-	-	-	-	-	-	-	-
1952	166	100	62.0	207	122	58.9	373	222	38.0
1953	309	211	68.0	518	322	62.1	827	533	64.4
1954	1	1	100.0	-	-	-	1	1	100.0
1955	-	-	-	2	-	-	2	-	-
1956	4	3	75.0	11	5	45.4	15	8	53.3
1957	35	24	68.5	45	32	71.1	80	56	70.0
1958	154	126	81.8	245	210	85.7	399	336	84.2
1959	246	201	81.7	356	299	84.0	602	500	83.0
1960 and later ...	144	123	85.4	123	86	70.0	267	209	78.6
TOTALS ...	2207	855	38.7	1835	1127	61.4	4042	1982	49.0

(b) General Condition

The general condition of children examined at Routine Medical Inspection during 1964 was again satisfactory.

(c) Visual Defects and External Diseases of the Eye

Of two hundred and fifty-six children found to have defective vision, two hundred and thirty-seven were referred for treatment.

In addition to those children with defective vision, twenty six were found with squint and three with "Other forms of external eye disease". All but two were referred for treatment.

(d) Ear Disease and Hearing Defects

At Routine Medical Inspection, sixty-six children found to have ear trouble were dealt with as follows:

	Referred for treatment	Referred for observation	Total
Hearing	54	5	59
Otitis media ...	5	-	5
Other	2	-	2

(e) Nose and Throat

Seventy-nine children were referred for treatment and twenty-six were placed under observation.

(f) Defective Speech

At routine inspection, twenty-one children were found to be suffering from speech defects, sixteen of whom were referred for treatment.

(g) Orthopaedic Defects

One hundred and twenty-eight children were discovered at routine medical inspection as follows:

	<u>Requiring Treatment</u>	<u>For observation</u>	<u>Total</u>
Posture	13	1	14
Feet	88	4	92
Other	15	7	22

(h) Heart and Circulation

Eight children were referred for treatment and nineteen for observation as a result of defects found at Routine Medical Inspections.

(i) Lungs

Fourteen children were found to have respiratory defects of varying degree, eight of which required treatment.

(j) Miscellaneous Defects

The following table sets out details of other defects found at Routine Medical Inspection:

Table 3.

Defect	Requiring Treatment	For Observation	Total
Skin	22	4	26
Lymphatic Glands	-	-	-
Development			
(a) Hernia	3	1	4
(b) Other	3	1	4
Nervous System			
(a) Epilepsy	-	-	-
(b) Other	-	1	1
Psychological			
(a) Developmental	17	38	55
(b) Stability	1	4	5
Abdomen	-	1	1
Other	57	34	91

Table 4.

(k) Comparative Table of Referrals by Division

Defect	Requiring Treatment			For observation		
	WEST	EAST	TOTAL	WEST	EAST	TOTAL
Skin	22	-	22	4	-	4
Eyes: Vision ..	162	75	237	6	13	19
Squint ..	15	9	24	2	-	2
Other ..	2	1	3	-	-	-
Ears	57	4	61	4	1	5
Nose & Throat ..	53	26	79	14	12	26
Speech	11	5	16	-	5	5
Lymphatic Glands	-	-	-	-	-	-
Heart	7	1	8	18	1	19
Lungs	8	-	8	6	-	6
Developmental ..	6	-	6	2	-	2
Orthopaedic . . .	84	32	116	7	5	12
Nervous System	-	-	-	1	-	1
Psychological...	15	3	18	17	25	42
Abdomen	-	-	-	-	1	1
Other	16	41	57	15	19	34
Totals	458	197	655	96	82	178

Heights and Weights

Table 5

WEST DIVISION

Group	BOYS			GIRLS		
	No. Examined	Average Height in Inches	Average Weight in Pounds	No. Examined	Average Height in Inches	Average Weight in Pounds
1949 & earlier	168	64½	106	608	63½	103
1950	152	63½	104½	220	63	103½
1951	-	-	-	-	-	-
1952	93	57	86½	73	58	87
1953	148	55½	78	161	55	78½
1954	-	-	-	1	55	76
1955	-	-	-	-	-	-
1956	-	-	-	4	51	60½
1957	16	46	47	19	45	46½
1958	62	45½	46½	92	45½	44
1959	142	43½	42½	104	44	45
1960 & later	72	40½	41	72	39½	42½

Table 6

EAST DIVISION

Group	BOYS			GIRLS		
	No. Examined	Average Height in Inches	Average Weight in Pounds	No. Examined	Average Height in Inches	Average Weight in Pounds
1949 & earlier	57	63½	102	59	62	101
1950	103	63½	102½	109	62½	101
1951	-	-	-	-	-	-
1952	99	58	83½	108	57½	88½
1953	261	55	79½	257	55½	82
1954	-	-	-	-	-	-
1955	-	-	-	2	52	62½
1956	5	47	47½	6	46½	47½
1957	26	46½	45	19	44	42½
1958	124	45	44½	121	45	43
1959	209	42	41½	147	42½	43½
1960 & later	65	41	39	58	39	41½

Following-up (WEST & EAST Divisions combined)

(a) General

No. of children examined at Follow-up
sessions 163

(b) Home Visits

(i) No. of Visits 362

(ii) School Nursing Details -

VISITS TO SCHOOLS

Table 7

	No. of Visits	Children Inspected
Cleanliness	227	24410
Infectious Diseases	14	42
Other Reasons	364	4042
TOTAL	605	28494

CLEANLINESS INSPECTIONS

No. of children clean	22760
No. of children with nits or pediculi	1650
TOTAL	24410

HOME VISITS

Re Uncleanliness	90
Defects at Routine Inspection ...	272
TOTAL	362

NUMBER OF CLINIC SESSIONS ATTENDED ...	603
--	-----

S E C T I O N T W O

T R E A T M E N T

Clinics

Location of the various Clinics is shown on Page 10 of the Report.

Inspection Clinic

Inspection Clinics at which the School Medical Officers examine children referred for special examination, are held on Wednesday and Friday afternoons. During the year, 1,028 children paid 1,144 visits to the 104 Clinics which were held.

Minor Ailments

Treatments are given every morning at the School Clinic, by a School Medical Officer assisted by two school nurses.

Table 8

Complaint	Cases	Attendances
Ringworm - Scalp	-	-
Body	-	-
Scabies	7	19
Impetigo	34	295
Other Skin Diseases	130	469
Minor Injuries	115	232
Verminous Head	36	59
Otorrhoea	1	1
Other ear defect or disease ..	22	29
Blepharitis	-	-
Conjunctivitis	1	1
Other external eye disease ...	15	23
Miscellaneous	7	7
Totals	368	1135

Tonsils and Adenoids

In all, four hundred and twenty-eight children were operated upon during the year, three hundred and thirty-six at Queen's Park Hospital, fifty at the Royal Infirmary and thirty-two at Accrington Victoria Hospital. At the end of the year, there were one hundred and sixty-seven children on the operation waiting list compiled by the School Health Service.

The department is notified of all children operated upon, to ensure follow-up on discharge.

Visual Defects

The Authority has continued to use the Supplementary Ophthalmic Services for the supply of spectacles to school children. Three clinics are held each week, attended by the Consultant Ophthalmologist, Mr. P. R. Stevens.

During 1964, one thousand six hundred and twenty attendances were made at one hundred and twelve ophthalmic sessions. Of these attenders, four hundred and forty-seven were new cases; spectacles were prescribed for seven hundred and seventy three children.

Physiotherapy and Remedial Exercises Clinic

PATIENTS TREATED AT THE PHYSIOTHERAPY CLINIC AND AT THE OPEN AIR SCHOOL
Table 9

	PHYSIOTHERAPY CLINIC								OPEN AIR SCHOOL	
	REMEDIAL EXERCISES				ELECTRICAL TREATMENT					
	School		Pre-School		School		Pre-School			
	Cases	Attendances	Cases	Attendances	Cases	Attendances	Cases	Attendances	Cases	Attendances
Breathing Exercises	32	324	3	22	-	-	-	-	14	112
Postural Defects	20	143	-	-	-	-	-	-	3	18
Spinal Curvature	2	6	1	37	-	-	-	-	-	-
Poliomyelitis	-	-	-	-	-	-	-	-	1	33
Congenital Defects	12	168	10	249	4	91	1	5	9	246
Defects of the Feet	144	1422	50	453	2	16	-	-	19	63
Genu Valgum	31	323	41	355	-	-	-	-	1	1
Result of Accident	10	59	1	1	10	59	-	-	2	9
Other	4	50	6	158	3	49	2	103	1	5
Totals	255	2495	112	1275	19	215	3	108	50	487

Ultra Violet Light Treatment

One hundred and twenty-eight children underwent ultra violet light treatment and received a total of 1,899 exposures, as follows:

	<u>Cases</u>	<u>Exposures</u>
Physiotherapy Clinic	115	1758
Open Air School	13	141

Orthoptic Clinic

During the first six months of 1964 the Orthoptic Department had a staff of two full-time Orthoptists. From July, this was reduced to one full-time and one part-time Orthoptist.

Full sessions have been carried out at the Victoria Street Clinic with five sessions weekly at the Royal Infirmary.

In July, the Clinic was moved from the top to the ground floor of the Health and Welfare Department. This move, no doubt appreciated by parents, is not without its problems, owing to the lack of adequate waiting-space. Unfortunately, little can be done to alleviate this which must await the ultimate transfer of clinics to the Health Centres.

The Infant School Survey of visual screening of young children was completed during 1964, during which a total number of three thousand eight hundred and ninety-four children aged seven years and under were seen. Four hundred and twenty-six of these were referred to the Eye Specialist for further investigation.

Sessions with the Consultant have been held regularly at the Victoria Street Clinic.

Statistics for the past year are as follows:

<u>School Clinic</u>	<u>Borough</u>	<u>County</u>
New cases	94	132
No. cured	86	89
No. discharged cosmetic	27	33
No. discharged as left District or failed to attend	→ 62 ←	
No. of children who attended	462	451
No. of attendances	— 3355 —	

Blackburn Royal InfirmaryBorough County

No. of new cases	258
No. of visits	1438
No. of operations	103
No. on waiting list for surgery	65

Visual Screening of Infants in School
by Orthoptists

No. of children referred to Consultant	426
No. of children who failed to keep appointment. ..	55
No. of children requiring glasses	248
No. with strabismus who did not require glasses ..	28

Of the two hundred and forty-eight children requiring glasses, fifty-one also had a manifest strabismus and quite a high proportion had a certain degree of latent deviation.

Thirteen children were found to have other defects as follows:

Congenital Nystagmus	1
Cataract	1
Headaches (referred to E.N.T.)	2
Granuloma of eyelid	1
Blepharitis and conjunctivitis	2
Kerataconus with choroidal atrophy below the disc .	1
Posterior polar opacity of right lens	1
Chorioretinitis affected macula right eye	1
Retinal degeneration (as characteristic of syphilis)	1
Others (Blepharitis)	2

The remaining eighty-two children were found to have normal visual acuity at retest.

Speech Clinic

The Speech Clinic, closed in March, 1962, re-opened in September on the appointment of Mrs. K. Stourton.

The last quarter of the year was devoted largely to "picking up the threads" the results of which, so far, are as follows:

Interviews with parents and/or children	58
Cases started treatment	30
Attendances for treatment	164

Cleansing of Children

The School Nurses continue to pay regular visits to Schools to examine children for the presence of infestation. During 1964, 24,410 such examinations were made and 1,650 instances of infestation recorded.

The Clinic Attendant continued to carry out systematic cleansing, and in all seven thousand four hundred and eighty-six treatments were given, to three hundred and ninety-one children. All treatments were carried out in school.

Audiometry

During 1964, the part-time audiometrician tested 1,933 children, 1,387 passing the test covering six different frequencies, at not more than 20 Db loss. One hundred and seventy-three were referred to the special clinic for further investigation and three hundred and seventy-three who failed by narrow margins were listed for re-testing at the next visit to their schools.

A special audio clinic is held once per week which includes full histories, a general examination of the child's nose and throat, as well as auroscopic examination of the ears and a full audiogram. The recommendations after examining one hundred and twenty-three cases were as follows:

Referred to own doctor	2
Referred to E.N.T. Consultant	64
For observation and retest after a period	31
* For forward placing in class	18
For Minor Ailment Clinic	8
Referred to other Consultants	7
No further action required	9
Speech Therapy	1
Ultra Violet Light	1
Open Air School	1

* All of these appear in other referrals

It must not be thought that the seven cases requiring no action and the twelve for observation indicated wasted effort as many were due to simple disorders such as wax, catarrhal otitis media, etc., which were dealt with at the time. Also a number of the no action cases resulted from the noisy conditions under which testing has to be done in some schools.

Child Guidance Clinic

After many frustrating years, the services of a Psychiatrist and Educational Psychologist were obtained and enabled the Child Guidance Clinic to be re-opened.

The Clinic is restricted to one session per week but it is hoped that this small beginning is only the first stage in the establishment of this essential feature of the School Health Service.

The Consultant Psychiatrist, Dr. A. Grant, has had many years experience in both Local Authority and Mental Hospital work.

The Educational Psychologist, Mr. P. Gaskill, is also Headmaster of the Royal Cross School for the Deaf, Preston.

Following the general pattern of the local health services the Medico-Social Workers act as psychiatric social workers, each dealing with her own "patients". Continuity of care and mutual understanding between family and social worker is maintained. Background knowledge of the family, so essential in Child Guidance work, is a part of the Medico-Social Workers' normal duties within her district, and this, together with the rapport which builds up between parent and social worker in all aspects of the latter's work, is of much importance to the Psychiatrist and Psychologist. This has been very much appreciated by both Dr. Grant and Mr. Gaskill.

The Clinic opened on 10th March, 1964, and by the end of the year thirty-five children had been seen by the Psychiatrist and Educational Psychologist. Two were awaiting examination at 31st December, 1964.

The results of the cases referred were:

	<u>WEST</u>	<u>EAST</u>	<u>TOTAL</u>
Children for Day E.S.N. School. ...	3	2	5
No further action	6	3	9
Recommended for Residential School .	2	1	3
Deferred action	10	8	18

S E C T I O N T H R E E

D E N T A L I N S P E C T I O N & T R E A T M E N T

I am indebted to Mr. J. Rigby, L.D.S., Principal Dental Officer, for the following report on the work of the School Dental Service during 1964:-

The staffing position remained at two full-time officers and one part-time, the latter employed three sessions weekly.

I am happy to report that approximately 15,000 children were inspected at routine school inspections, some 2,000 more than in 1963. As is the normal custom, the pupils at the Open Air School were inspected and treated twice in the year; all treatment except general anaesthetic cases, is carried out in the Dental Caravan sited at the School.

Overall, the percentage of children suffering from dental caries dropped from 58% to 54%, a trend in the right direction. By a peculiar coincidence the number of teeth extracted, namely 3,570, was the same as 1963. The number of fillings carried out (3,650), represents an advance of approximately 650 on the previous year. It is hoped that this improvement in the fillings/extraction ratio will be maintained in future years.

Emergency treatments, at about 750 cases, remained more or less steady and no dramatic change is anticipated in this aspect of the service in future years.

One very welcome feature, not disclosed in the figures, is the number of requests received by parents for "recalls", i.e. checks normally undertaken every six months for inspection and treatment. This indicates an awareness of the need for constant dental supervision, and such demands are met whenever possible. It seems likely that more similar requests will be forthcoming year by year.

As regards equipment, a third air turbine was obtained early in the year so that all surgeries are now so equipped. No further major items of equipment should be necessary until the new Health Centres are open.

In the field of Health Education, lectures on Dental Health have been carried out in schools by members of the nursing staff, although it is apparent there is scope for increase in this type of work.

A disquieting note is the rising number of appointments not kept; although more appointments were made in 1964 than in 1963, about 80 less patients were seen in the year. Attendances for orthodontic treatment increased by 25%; This was due, in part, to extra sessions being carried out by the Orthodontist.

During 1964, several cases have been referred to the Consultant Dental Surgeon both by the school dental surgeons and the Orthodontist and I am grateful to Mr. Monks at the Royal Infirmary for his co-operation.

I would also like to express my thanks to the dental staff for their loyal work and to the teachers for their help during routine inspections and the ensuing arrangement of appointments.

J. RIGBY,
Principal Dental Officer.

The appended tables summarise the work done in the department during 1964:

ROUTINE DENTAL TREATMENT	
Permanent Teeth Fillings	3149
Temporary Teeth Fillings	494
Extractions	3570
Other Operations (excluding Orthodontic treatment)	620
General Anaesthetics	576
Percentage with dental caries	54%
Percentage of appointments kept	83%

ORTHODONTIC TREATMENT	
(By the Consultant Orthodontist, Mr. L.C.G.HODGKINS, L.D.S.)	
Cases carried over from previous year	51
Cases commenced during the year	29
Cases completed during the year	20
Cases discontinued during the year	1
Pupils treated with appliances	55
Removable appliances fitted	53
Fixed appliances fitted	2
Total Attendances	675

D E N T A L T R E A T M E N T

Table 10

	No. of half-days devoted to inspection	No. of half-days devoted to treatment	No. of attendances made by children at clinic	Number of Permanent Teeth		Number of Temporary Teeth		Total Number of Teeth		Administration of General Anesthetics	Administration of Local Anesthetics	Number of Other Operations					X-Ray
				Extracted	Filled	Extracted	Filled	Extractions	Fillings			Perm. Dress.	Perm. Scale	Temp. Dress	Temp. Scale	Root Treatment	
Routine	126	930	5651	879	2863	1963	458	2842	3321	576	923	749	120	9	-	48	240
Specials	-	-	765	179	-	549	-	728	-	-	608	150	-	-	-	-	-
TOTAL	126	930	6416	1058	2863	2512	458	3570	3321	576	1531	899	120	9	-	48	240

1964 1963
 5969 5834
 4976 5059
 2234 2130

Appointments to attend the clinic were made to the number of
 The number of appointments kept was
 The number of routine cases completed was

S E C T I O N F O U R

I N F E C T I O U S D I S E A S E S

Information as to the incidence of non-notifiable infectious disease is obtained from teachers, welfare officers, public health inspectors, health visitors and parents.

The following table gives particulars of cases of infectious diseases occurring in school children during 1964.

Table 11

	Scarlet Fever	Diphtheria	Measles	Whooping Cough	Chicken Pox	Mumps	Dysentery	Primary Pneumonia	Acute Polyomyelitis	Cerebro- Spinal Fever
January	1	-	-	6	10	8	4	-	-	-
February	2	-	2	7	9	2	31	-	-	-
March	1	-	1	7	13	-	6	-	-	-
April	-	-	-	-	22	2	5	-	-	-
May	1	-	1	4	10	1	2	-	-	-
June	2	-	-	6	4	-	3	-	-	-
July)										
August)	1	-	1	3	1	-	2	-	-	-
September	-	-	4	-	5	-	-	-	-	-
October	2	-	18	4	2	11	-	-	-	-
November	1	-	81	2	-	10	2	-	-	-
December	6	-	97	1	23	2	1	-	-	-
TOTALS	17	-	205	40	99	36	56	-	-	-

S E C T I O N F I V E

H A N D I C A P P E D P U P I L S

Ascertainment

The arrangements for the ascertainment of pupils requiring special educational treatment are covered by regulation of the Minister of Education, and have been detailed in previous reports.

Special School Provision

There are three special schools provided by the Authority, an Open Air School for Delicate children, a school for Partially Sighted Pupils in Corporation Park and Crosshill School for Educationally Subnormal Pupils (the latter transferred from Four Lanes End in September).

Partially Sighted Pupils are admitted to the Special School in Corporation Park. At the end of the year, seventeen children (nine boys and eight girls) were in attendance.

I append a report of the School's activities by the Headmaster, Mr. H. H. Evans:

"There were eighteen children on roll at the beginning of the year. One more boy was admitted and three girls left so the number on roll at the year's end is sixteen (9 boys and 7 girls). One girl went to a Secondary Modern School, another to the Junior Training Centre for Mentally Retarded, Oswaldtwistle, the third, age 17 years 11 months, going on for further training under the auspices of The Spastics Society.

In my report last year I referred to our taking part in the i.t.a. reading experiment. Now, one year later, I see no reason to modify what was said then. In fact three of the children involved are now in the process of changing over from i.t.a. to traditional reading matter. This is the stage which could possibly have caused us some concern but the transition is being accomplished at a very satisfactory rate. The enthusiasm for reading is still very much in evidence and the pride of achievement is doing much to instil that vital confidence in ability so necessary for the complete education of the handicapped child.

A pleasing feature this year is that the older children, of their own volition, expressed a desire to help others less fortunate than themselves. After some discussion it was decided that both boys and girls should knit knee rugs,

kettle holders, dishcloths etc. from surplus balls of wool which parents and friends may have by them. The result of this is that two large knee rugs and several kettle holders and dishcloths are now ready to be sent to the old people in Liverpool House. Because of the fact that several of the children come from Bolton and parwen a school co-ordinated scheme for visits and errand going for old people is not possible, but one or two children from Bolton are now doing this sort of thing in the evenings in their own area. To my mind such ideas are beneficial in two ways, not only do the old people benefit but also the self confidence of the children concerned receives a welcome boost; further, the argument put forward by some that the children in a small unit such as ours are "over insulated" must be somewhat weakened.

The children submitted a good selection of their work for entry in the Children's Section of the Agricultural Show and in all thirteen prize cards were gained.

During the year we had visits from His Worship the Mayor and the Mayoress, also from Dr. Shirley Fine from the medical staff of the Ministry of Education, London, who was accompanied by Dr. Ardley. We also had the usual observation visits made by student teachers, university students, etc.

All the children and staff spent a full morning at Chorley Day Training College and the highlight of this visit was in the Art Department where the children had a more or less free rein to try everything. The older children also visited the Careers Exhibition in Blackburn and were accompanied by the Headmaster. Whilst this was fascinating for them to see it did stress the fact that industrial progress and increasing technical development tends to limit still more the already fairly narrow field of employment open to the majority of partially sighted children.

The Nativity Play given to members of the Parks Staff, parents and friends was particularly well received this year and was again set in modern surroundings. Our thanks are due to Cedar Street County Primary School and St. Monica's School for providing excellent choirs to sing appropriate carols. Miss Simpson, Music Organiser took charge of both choirs and also accompanied them on the piano. This is a much appreciated service which Miss Simpson renders to the school every year. We are also indebted to Mr. Kemball Cook and the boys of Queen Elizabeth's Grammar School for inviting all our children to share in one of their Christmas Parties.

In retrospect 1964 has been a most satisfactory year here from all standpoints and this is due in no small measure to the dedication of the part-time staff both teaching and ancillary; also to the invaluable co-operation and help afforded by the School Medical Service and the various departments of the Education Offices. My most sincere thanks are hereby expressed to all of them.

H. H. Evans,
Headmaster."

Open Air School

I append a report of the Headmaster, Mr. H. Harling, on the School:

"Forty-seven children were admitted and fifty-three discharged during 1964, one hundred and forty-one being in attendance at the end of the year.

The reasons for the admission of the forty-seven cases were as follows:

Asthma	7	Inco-ordination of Limb	1
Chest Complaints	5	Movement	
Chronic Sinusitis	1	Spasticity of Limbs	2
Nasal Obstruction	1	Paresis of Left Leg and	
General Debility	16	Bladder	1
Delicate	2	Pseudo Hyperstrophic	
Nervous Debility	3	Muscular Dystrophy	1
Poor Muscular Development	1	Cerebral Palsy	1
Underweight	2	Re-admitted after hosp-	3
		italisation	

The children on roll in December, 1964, fall into the following categories:

Delicate	108	Educationally Subnormal	1
Physically Handicapped	21	Epileptic	4
Partially Sighted	2	Maladjusted	1
Partially Hearing	2	Speech Defect	2

These figures show that 23% of the children on roll have been diagnosed as suffering from complaints other than Delicate, 15% of them being Physically Handicapped. There would seem to be a definite case, therefore, for having the school officially designated as Open-Air & Physically Handicapped.

Pupils are selected for admission by the School Medical Officer who re-examines them on admission to the school and at regular intervals thereafter. During the year four hundred and fifty such inspections were made.

In the school medical room one hundred and sixty-five children were treated there being five thousand, eight hundred and eighty visits by children to the medical room during the year. Children having fits were attended on twenty-eight occasions by the school nurse. In addition children having fits and minor complaints were attended by teachers on numerous occasions when the school nurse was not available.

Owing to staffing difficulties a Health Department Physiotherapist has only been in attendance in the medical room on two mornings each week. This has meant that, apart from Postural Drainage and Sunlight, most of the work in Physiotherapy has been concentrated on children with the

greatest individual needs and that much of the group work involving Breathing Exercises and Posture Exercises has had to be curtailed. The further appointment of a Physio-therapist to attend three afternoons each week has now overcome the difficulty.

Average attendances were: Easter Term 78.8%, Summer Term 82.7%. Autumn Term 80.1%. The highest weekly percentage of average attendance was 90.1%.

F. HARLING,

Headmaster."

Educationally Subnormal Pupils

During the year, eighty-two children have been examined regarding their mental condition, with results as follows:

Recommended for Special Day Schools	28
Recommended for Special Residential Schools	6
Required no action	28
Decision deferred	1
Unsuitable for education at school	5
Referred to Child Guidance Clinic	10
Referred to Open Air School	3
Referred to Mental Health Service	1

At the end of 1964, one hundred and five children (63 boys and 42 girls) were in attendance at Crosshill Special School.

I append the report of the Headmaster, Mr. F. Duerden, on the School's activities during the year.

"During the year thirty-six children were admitted (thirty-two new entrants and four re-admissions) and twenty-three left - seventeen for employment, three to residential care, two left town and one ascertained to be ineducable.

As far as changes of Staff and Staff illnesses were concerned the year was a settled one allowing the work to proceed in an orderly sequence as far as the actual teaching was concerned. In the early months of the year it became apparent that the long-expected move to Crosshill was likely to be effected not later than the start of the Autumn Term. This meant an inordinate time being spent by the Staff and myself in preliminary organisation and preparation for the actual transfer. Despite our best efforts to limit the effects of the unsettled feeling which was engendered in the children, it was noticeable that increased effort from the teachers produced diminishing returns from the children. In addition some of our usual activities, which to some extent were extraneous to the basic work of the school, had to be

curtailed or temporarily suspended. We were, however, able to celebrate the School Birthday in May, and, after the transfer, to hold our Christmas functions - Display of Cakes and Plum-puddings, Carol Service and Readings, and Christmas Dinner and Party.

To facilitate the actual removal the school was closed four days early for the Midsummer Holidays, the Staff spending the last week of term receiving and disposing of stock and equipment in the new building and becoming familiar with the layout of the premises and surroundings. The school assembled in its new quarters on 31st August with eighty-eight pupils from Four Lanes' End, and during the succeeding month, fifteen new entrants were admitted, clearing the existing waiting list. For the rest of the year there was little sign of a concerted effort in the reporting and ascertainment of E.S.N. children to avoid the building-up period becoming unduly protracted.

Knowing what difficulties our children have in adapting themselves to breaks in familiar routines and changing circumstances, we expected serious teething troubles in the early stages at Crosshill and, as far as we possibly could, tried to anticipate them. For a time we were pleasantly surprised by their apparently easy acceptance of the complicated buildings and what must have appeared to them to be a completely different school life. As familiarity with their surroundings grew, however, it became obvious that they had in fact been seriously disturbed. This did not show itself particularly in their school work but in their general conduct both in and out of school hours and in their attitude to the social life of the school. This was complicated by the unfinished state of some parts of the buildings necessitating groups of workmen continually on the premises and classes being moved about to allow the work to proceed. The general deterioration in standards of good conduct and the increase in reprehensible behaviour, so noticeable in the outside world, appears to be affecting all schools and ours was no exception. In the past we have always had some children who could be classed as having serious behaviour problems, often resulting in Court appearances, but, as I pointed out in my 1963 report, we are becoming more and more concerned at the increasing number of such cases being sent here. It is not so much the difficult work entailed in attempting to stabilise these children which worries us but the knowledge that the increased attention given to them, often with little effect, is at the expense of the rest of the children for whom the school is intended. From this point of view 1964 has been the worst year we have experienced - there were eight cases of children committed to Remand Homes for report consequent upon serious delinquency outside school and, in common with other schools, the increase in cases of persistent truancy and absconding was most marked. I feel that in many of these cases more attention should be given to the attitude of the parents who, after all, are initially responsible for seeing that their children attend school.

The long standing difficulty of providing sufficient Handicraft and Housecraft teaching for the senior pupils was simplified on occupying Crosshill. We now have, within the school, splendidly equipped rooms for these subjects, and for the first time, I was able to have three groups of girls and four groups of boys under regular instruction.

For many years I have been able to report outstanding swimming successes but this year was definitely not a vintage one. The preparations for moving followed by the settling-in period were not helpful but even more disastrous was the alteration in the swimming programme.

Whereas in the past we have had a gentle progression in Life Saving from Elementary to Intermediate and on to Bronze Medallion and Bronze Cross it was ordained that in 1964 the only Royal Life Saving Society examination to be taken in school swimming lessons would be at the Elementary level. Coupled to this was the introduction of the new syllabus by the R.L.S.S. The nett result was that we took no Life Saving examinations at all.

Even at Learner and Progress levels our successes were down as compared with previous years though a steady trickle of these certificates was maintained.

In addition one girl was successful in the "Bronze" level examination in Personal Survival and one boy gained an Intermediate Style certificate. The Personal Survival examination is a newly-inaugurated idea run by the Amateur Swimming Association and requires, even at the Bronze level, a fairly large step from the Progress certificate. During 1964 the award was only available to the girls. Intermediate Style is a difficult examination for E.S.N. children demanding as it does a very high degree of co-ordination.

We approach the 1965 season in the hope that several boys will be able to gain Bronze level certificates for Personal Survival and at the same time great efforts are being made with the non-swimmers. Some sixty boys and girls attend for swimming instruction each week and one feels certain that the expenditure involved will prove worthwhile.

Our thanks are due to the Chief Education Officer and his departmental staff for the help they have so freely given and for straightening out our difficulties when it has lain within their power to do so. My own Staff deserve, and are given, my sincere thanks for their conscientious work throughout the year. I have no doubt that until the settling-in and building-up period is over, and I fear this will be longer than we originally envisaged, they will cheerfully undertake extra work and responsibilities for the benefit of the children.

Frank Duerden,

Headmaster."

HANDICAPPED PUPILS REQUIRING EDUCATION IN SPECIAL SCHOOLS AT THE

END OF THE YEAR

Table 12

	Blind	Part'y Blind	Deaf	Part'y Hearing	Phys. Handi- capped	Deli- cate	Maladj	E.S.N.	Epil.	Speech Defects	TOTAL
(I) No. of pupils requiring places in special schools											
(a) day places	-	-	-	-	-	6	-	13	-	-	19
(b) boarding places	-	-	-	1	2	1	3	5	1	-	13
(II) No. of pupils included at (i) who had not reached the age of 5 and were awaiting											
(a) day places	-	-	-	-	-	-	-	-	-	-	-
(b) boarding places	-	-	-	-	-	-	-	-	-	-	-
(III) No. of pupils included at (i) who had reached the age of 5 but whose parents had refused consent to their admission to a special school											
(a) day places	-	-	-	-	-	-	-	-	-	-	-
(b) boarding places	-	-	-	-	1	-	1	-	-	-	2

ANALYSIS OF SPECIAL SCHOOLS TO WHICH BLACKBURN CHILDREN HAVE BEEN ADMITTED

On 20th January, 1965, 322 children (176 boys and 146 girls) were in special schools as follows:

BLIND PUPILS

	Boys	Girls
Wavertree School, Liverpool	2	-
St. Vincent's, Liverpool	1	-
Henshaw's, Old Trafford	-	1
Sunshine Home	1	-

PARTIALLY SIGHTED PUPILS

Partially Sighted Class, Corporation Park, Blackburn ...	9	7
--	---	---

DEAF PUPILS

Mary Hare Grammar School, Newbury	1	-
Royal Cross School for the Deaf, Preston	2	10
St. John's, Boston Spa	1	-

PARTIALLY DEAF PUPILS

Thomasson Memorial School, Bolton	3	2
Liverpool School, Birkdale	2	-

DELICATE PUPILS

Lostock Open Air School, Bolton	-	2
St. John's School, Woodford Bridge	1	-
Black-a-Moor Open Air School	57	65

EDUCATIONALLY SUBNORMAL PUPILS

Rudolf Steiner, Ringwood	1	-
Crosshill Special School	68	50
Crowthorn, Bolton	4	-
Thingwall, Liverpool	-	1
Pontville, Ormskirk	1	-
Besford Court, Worcester	1	-

MALADJUSTED PUPILS

Unlawater House, Gloucester	2	-
Pitt House, Devon	1	-

EPILEPTIC PUPILS

Black-a-moor Open Air School	3	-
---------------------------------------	---	---

PHYSICALLY HANDICAPPED

Black-a-moor Open Air School	12	6
Birtenshaw Hall, Bolton	-	2
Bradstock Lockett, Southport	2	-
Thomas De La Rue, Tonbridge	1	-

S E C T I O N S I X

M I S C E L L A N E O U S

Co-operation

Teachers, parents and School Welfare Officers have fully co-operated in the work of the School Medical Department. To them my thanks are expressed.

National Society for the Prevention of Cruelty to Children

Mr. D. J. Evans, Inspector of the Blackburn Branch, works in close association with the Health Visitors, and his continued help is much appreciated.

During the year 1964, four cases were reported through the School Health Service. These concerned the welfare of fourteen children and came under the category of neglect.

They all responded to warnings and advice.

Employment of Children and Young Persons

School Medical Officers examined 1476 children for employment during 1964.

Three hundred and ninety-two children (298 boys and 94 girls) were newly licensed for employment out of school hours, and five children were licensed to take part in entertainments.

Deaths of School Children, 1964

Pneumonia	1
Accidents	2
Congenital Deformity	.			2

Nursery Classes

There are thirty-one Nursery Classes in the Borough for the accommodation of children between the ages of three and five years. Inspection findings of children in attendance at these classes are incorporated in the appropriate group of Periodic Medical Inspection Tables.

The number of children on the rolls at the end of the year was 847.

School Nurses visit each Nursery Class at frequent regular intervals.

Physical Education

I am indebted to the Chief Education Officer for the following Report on Physical Education in the Schools:

The present day picture of physical education in schools is most varied. The inclusion of sailing and outdoor pursuits has been stimulated by the Duke of Edinburgh Award Scheme and as long as new activities are well taught the opportunities of trying out these new activities will certainly be appreciated. The views of Headteachers and staff colleagues are important factors but the sound quality of teaching in all branches of physical education is essential. The introduction of boys and girls to the activities they will wish to continue after leaving school is one of the aims of physical education.

Blackburn schools have had one of the best years in their history as outlined under subsequent sections. The high standard of performance in all branches of physical education has been maintained. The Committee's Organisers arranged and conducted:

- (a) A one-day Canoe Course at Queen's Park Lake, Blackburn.
- (b) A one-day course in physical education for junior and secondary school teachers in March 1964. The attendance of 75 teachers was most gratifying. Mr. E. E. Barnard, H.M.I. led the discussion and "question time" at the end of the afternoon.

One of the most extensive developments in post-war education has been the provision of playing fields alongside new school buildings. In Blackburn the acreage of school playing fields has trebled in the last five years and is still expanding. Provision has also been made for all types of outdoor pursuits such as camping, canoeing and dinghy sailing.

GAMES AND ATHLETICS

After a disappointing start in the Lancashire Schools' Football Competition, Blackburn Boys made outstanding progress in the English Schools' Trophy. In fact they reached the "last eight" and in so doing made history - this was the furthest stage any Blackburn boys' team had progressed. Considering 360 town teams entered this competition this was undoubtedly a splendid achievement.

On the girls' side Blackburn gave a good account of themselves in all the Lancashire Schools' Netball Rallies, whilst at the Lancashire Schools' Athletics Festival, Blackburn girls were placed first in their particular group.

The annual inter-school competitions at all levels in football, netball, athletics, swimming and cricket indicated the enthusiasm and interest in these competitions and also the very high standard of performance of Blackburn school children.

SWIMMING AND LIFE SAVING

Although it is becoming increasingly difficult to maintain and improve upon the traditionally high standard in this field, Blackburn schools have had one of the best years possible.

Four of our Junior schools tied for first place for the National Dolphin Trophy, for which over 1,000 schools from local authorities took part.

Following this success Blackburn schools have been awarded the National Trophy for Primary and Secondary Schools sponsored by the Royal Life Saving Society. The competition is open to all local authorities in the country and it is indeed a splendid achievement.

HARRISON GYMNASIUM & BARTON STREET GYMNASIUM

During school hours, these gymnasia are used mainly by the Technical and Grammar School. Recreative classes take place each evening and both are good for Course and General activities.

KEEP FIT CLASSES

Evening Keep Fit Classes for adults arranged by the People's College at schools in well-populated areas have proved extremely popular throughout the Autumn and Winter.

Milk supplied in schools. During the year 2,559,423 bottles (each bottle containing $\frac{1}{2}$ pint) were supplied to children free of charge.

Meals supplied during 1964

Meals supplied free (necessitous cases)	111,088
Meals supplied for payment	1,692,553
Occupation Centre	6,372
Total Meals supplied during the year:	1,810,013

Average daily number fed each month:

January	10,222	May	9770	September	10,587
February	10,022	June	9919	October	10,498
March	9,920	July	9679	November	10,382
April	10,138	August	143	December	10,352
		(holidays)			

M I N I S T R Y O F E D U C A T I O N

M E D I C A L I N S P E C T I O N R E T U R N ' S

M E D I C A L I N S P E C T I O N O F P U P I L S A T T E N D I N G M A I N T A I N E D A N D A S S I S T E D P R I M A R Y A N D S E C O N D A R Y S C H O O L S

A. P E R I O D I C M E D I C A L I N S P E C T I O N S

Age Group	No. Inspected	Physical Condition		Requiring Treatment		
		Satis.	Unsatis.	Vision	Any other Condition	Individual Pupils
1960 & later	267	267	-	3	47	40
1959	602	602	-	4	85	81
1958	399	399	-	-	49	46
1957	80	80	-	3	7	10
1956	15	15	-	2	1	3
1955	2	2	-	1	-	1
1954	1	1	-	-	-	-
1953	827	827	-	77	97	155
1952	373	373	-	36	50	76
1951	-	-	-	-	-	-
1950	584	584	-	41	45	71
1949 & earlier	892	892	-	70	37	85
TOTAL	4042	4042	-	237	418	568

B. O T H E R I N S P E C T I O N S

Number of Special Inspections ...	1377
Number of Re-Inspections ...	1737
Total ...	<u>3114</u>

C. I N F E S T A T I O N W I T H V E R M I N

(i)	Total number of individual examinations in the schools by the school nurses or other authorised persons	24,410
(ii)	Total number of individual pupils found to be infested ..	391
(iii)	Number of individual pupils in respect of whom cleansing notices were issued (Section 54(2), Education Act, 1944) ...	-
(iv)	Number of individual pupils in respect of whom cleansing orders were issued (Section 54(3), Education Act, 1944) ...	-

DEFECTS FOUND BY MEDICAL INSPECTION DURING THE YEAR

PERIODIC INSPECTIONS

Table 13

DEFECT CODE NO.	DEFECT OR DISEASE	PERIODIC INSPECTIONS					SPECIAL INSPECTIONS
			ENTRANTS	LEAVERS	OTHERS	TOTAL	
4	Skin	T	1	10	11	22	1
		O	2	1	1	4	-
5	Eyes - a. Vision	T	9	111	117	237	64
		O	1	5	13	19	4
	b. Squint	T	13	6	5	24	16
		O	2	-	-	2	-
	c. Other	T	1	-	2	3	2
		O	-	-	-	-	-
6	Ears - a. Hearing	T	27	21	6	54	14
		O	3	-	2	5	-
	b. Otitis Media	T	3	1	1	5	4
		O	-	-	-	-	-
	c. Other	T	1	-	1	2	-
		O	-	-	-	-	1
7	Nose and Throat	T	39	13	27	79	33
		O	17	1	8	26	1
8	Speech	T	8	4	4	16	12
		O	2	-	3	5	-
9	Lymphatic Glands	T	-	-	-	-	-
		O	-	-	-	-	-
10	Heart	T	2	2	4	8	1
		O	9	3	7	19	1
11	Lungs	T	4	1	3	8	4
		O	4	2	-	6	3
12	Development a. Hernia	T	-	-	3	3	-
		O	1	-	-	1	-
	b. Other	T	-	1	2	3	1
		O	-	-	1	1	1
13	Orthopaedic a. Posture	T	2	2	9	13	-
		O	-	-	1	1	-
	b. Feet	T	30	8	50	88	10
		O	3	-	1	4	-
	c. Other	T	12	1	2	15	4
		O	3	4	-	7	2
14	Nervous System a. Epilepsy	T	-	-	-	-	-
		O	-	-	-	-	-
	b. Other	T	-	-	-	-	-
		O	1	-	-	1	-
15	Psychological a. Development	T	4	5	8	17	4
		O	5	6	27	38	1
	b. Stability	T	-	-	1	1	3
		O	3	-	1	4	2
16	Abdomen	T	-	-	-	-	-
		O	-	-	1	1	-
17	Other	T	18	7	32	57	26
		O	20	5	9	34	12

TREATMENT OF PUPILS ATTENDING MAINTAINED AND ASSISTED PRIMARY AND SECONDARY SCHOOLS

GROUP A - EYE DISEASES, DEFECTIVE VISION AND SQUINT

	No. of cases known to have been dealt with
External and other, excluding errors of refraction and squint	16
Errors of refraction (inc. squint) .	1,620
Total	1,636
Number of pupils for whom spectacles were prescribed	773

GROUP B - DISEASES AND DEFECTS OF EAR, NOSE AND THROAT

	No. of cases known to have been dealt with
Received operative treatment -	
(a) for diseases of the ear	58
(b) for adenoids and chronic tonsillitis	428
(c) for other nose and throat conditions	105
Received other forms of treatment	287
Total	878
Total number of pupils in schools who are known to have been provided with hearing aids	
(a) in 1964	2
(b) in previous years	19

GROUP C - ORTHOPAEDIC AND POSTURAL DEFECTS

	No. of cases known to have been dealt with
(a) Pupils treated at clinics or out-patient departments	389
(b) Pupils treated at school for postural defects	50
Total	439

GROUP D - DISEASES OF THE SKIN

	No. of cases known to have been dealt with
Ringworm - (i) Scalp	-
(ii) Body	-
Scabies	7
Impetigo	34
Other skin diseases	130

GROUP E - CHILD GUIDANCE TREATMENT

Number of pupils treated at Child Guidance Clinics under arrangements made by the Authority	38
---	----

GROUP F - SPEECH THERAPY

Number of pupils treated by Speech Therapists under arrangements made by the Authority	40
---	----

GROUP G - OTHER TREATMENT GIVEN

(a) Number of miscellaneous minor ailments treated by the Authy	122
(b) Pupils who received convalescent treatment under School Health Service arrangements	1
(c) Pupils who received B.C.G.	1201
(d) Others -	
1. Orthoptics †	913
2. Sunlight	128
3. Cleansing	391
4. Chiropody	79
5. Audiometry	1933
Total (a - d)	4768

† In addition 451 Lancashire County Council pupils were dealt with during the year

DENTAL INSPECTION AND TREATMENT

Table 14

(a)	(i)	Number of pupils inspected by the Authority's Dental Officers:-		
	(a)	At Periodic Inspections	15210	
	(b)	At Specials	<u>765</u>	
		Total (i)		15,975
	(ii)	Number found to require treatment		7,454
	(iii)	Number offered treatment		7,454
	(iv)	Number actually treated		3,169
(b)	(i)	Number of attendances made by pupils for treatment excluding those recorded at heading (c) below ...		4,670
	(ii)	Half-days devoted to:		
		Periodic Inspections	126	
		Treatment	<u>813</u>	
		Total (ii)		939
	(iii)	Fillings:		
		Permanent Teeth	3149	
		Temporary Teeth	<u>494</u>	
		Total (iii)		3,643
	(iv)	Number of Teeth filled:		
		Permanent Teeth	2863	
		Temporary Teeth	<u>458</u>	
		Total (iv)		3,321
	(v)	Extractions:		
		Permanent Teeth	1058	
		Temporary Teeth	<u>2512</u>	
		Total (v)		3,570
	(vi)	(i) Number of general anaesthetics given for extractions		576
		(ii) Number of half days devoted to the administration of general anaesthetics by:		
		a. Dentists	-	
		b. Medical Practitioners	<u>39</u>	
		Total (vi) (ii)		39
	(vii)	Number of pupils supplied with artificial teeth ...		29
	(viii)	Other operations: (i) Crowns	-	
		(ii) Inlays	-	
		(iii) Other Treatment	<u>620</u>	
		Total (viii)		620
(c)	<u>Orthodontics</u>			
	(a)	Number of attendances made by pupils		970
	(b)	Half days devoted to orthodontic treatment		125
	(c)	Cases commenced during the year		60
	(d)	Cases brought forward from previous year		59
	(e)	Cases completed during the year		41
	(f)	Cases discontinued during the year		6
	(g)	Number of pupils treated by means of appliances		94
	(h)	Number of removable appliances fitted		96
	(i)	Number of fixed appliances fitted		2
	(j)	Cases referred to and treated by Hospital Orthodontists ..		-

C O U N T Y B O R O U G H O F B L A C K B U R N
S C H O O L H E A L T H S E R V I C E

A COMPARISON OF THE HEIGHTS AND WEIGHTS OF
TWELVE YEAR OLD BLACKBURN BOYS AND GIRLS
FROM 1907 TO 1960

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A COMPARISON OF THE HEIGHTS AND WEIGHTS OF

12 YEAR OLD BLACKBURN BOYS AND GIRLS

FROM 1907, TO 1960.

1. The 12 year old age group was selected as being the one best represented in numbers of children examined throughout the period of 1907 and 1960. Prior to 1921 children over 12 years old were not weighed and measured.

2. Because the method of grouping children into age groups was changed in 1929, it has been necessary to construct 3 separate tables. In table 1 covering the years 1907 to 1928, the children examined were 12 years old at the time of examination.

In table 3 covering the years 1947 to 1960 they were 12 years old in the year of examination. As there were insufficient children who were 12 years old in the year of examination between 1929 and 1938 it has been necessary to give the heights and weights of those who were 13 years old in the year of examination. A fair proportion of these children would have been 12 years old when examined. This table, table 2, can only be used as an approximate indication of height and weight trends of 12 year olds and although comparable very roughly with table 1 there is a year difference in the average age between children in table 2 and table 3.

3. No measurements are available for the years 1917 to 1920. In his report to the Education Committee of the County Borough of Blackburn in 1920, Sir Allen Daley states "that owing to the fact that there were only two or three schools possessing a weighing machine, the heights and weights of the scholars had not been recorded since 1917 when a weighing machine was transported from school to school. Under those circumstances accurate weighing was considered impossible". (Reference 2.) Nor are measurements available for the years 1939 to 1946 as routine weighing and measuring was suspended during the Second World War.

4. In 1955, only 49 boys and 70 girls were assessed and therefore the figures for these children are not truly representative. Numbers assessed in the age group

selected were too small in 1954, 1956 and 1957 to quote.

5. Table 4 gives a comparison between the average height and weight of Blackburn 12 year old children, (i.e. 12 in the year of examination), and comparable figures for Liverpool, (reference 3), Exeter City and County (reference 4), and the standard American figures for 12 and 12½ year olds employed by Nelson in his textbook of Paediatrics quoting Iowa Child Welfare Research Station, the State University of Iowa (reference 5), the standard values for the same age group used in assessing Blackburn children by Blackburn Royal Infirmary and Queen's Park Hospital, Blackburn quoting the Department of Maternal and Child Health Harvard School of Public Health, Boston, Massachusetts, (reference 6).

6. It would be expected that children who were born or spent their early years during the War years 1914 - 1918, and 1939 - 1945, would have a higher standard of nutrition than those born between the Wars or immediately after the second World War. This would be so by virtue of greater attention to infant feeding and better provision and reservation of food for children during the Wars.

7. It is interesting to note that half timers in industry were better nourished than those attending school full time. The fact that fitter children were more likely to go out to work must, however, be borne in mind.

8. The figures in table 1 are of doubtful value however. Sir Allen Daley in his report in 1921 to the Education Committee, County Borough of Blackburn, in his capacity of School Medical Officer stated "there never have been weighing machines in the Blackburn schools. Many years ago an attempt was made to record the weights of those subjected to routine inspection by transporting a weighing machine from school to school, but the constant removal led to inaccuracies and the transport was costly and difficult; the scheme was, therefore, abandoned". (Reference 7).

9. The general pattern of growth throughout the country shows that the school children of today are taller and heavier than their predecessors were 50 years ago.

In Urban areas, both boys and girls are 2 - 4" taller at the age of 12 and at the same age the increase in weight has been 7½ to 9 lbs. Increases in heights and

weights have been less in Rural than in Urban areas although children in country areas are still heavier than those in the towns, (reference 8). The average height and weight of children at public schools is higher than that of those attending State schools and, therefore, a lesser degree of increase in the heights and weights of children at public schools is observable.

10. Boyne, Aitken and Leitch who studied changes in growth up to 1953 stated that the height and weight of 12 year old boys and girls fell just before the First World War but gradually rose in the 20's. There is a suggestion of an arrest of progress in the years of the depression 1930 - 1933. Thereafter the rise continued up to the Second World War. From 1945 to 1953 the heights increased and weights rose steeply, (reference 9).

11. Dr. D. C. Lamont is quoted in the Annual Report of the Chief Medical Officer of the Ministry of Education for 1956 - 1957 as stating that in Burnley there was a steady improvement in both heights and weights prior to 1950 but not since then. In the younger age groups there had been a slight decrease in height and weight between 1950 and 1951 but the figures for 1955 and 1956 suggested this tendency had been arrested. In 1956 there was no appreciable change in size in the 5 year old and 10 year old children. Fourteen year old girls and boys, however, showed a slight improvement in height and weight, (reference 10).

12. Boyne, Aitken and Leitch state that the weight pattern in girls appears to have altered. Girls overtake boys earlier at about 10 years and are heavier on the average than boys up to 14 years of age. At each age their weight/height ratio has increased but London reports do not support this view so far as London children are concerned. There seems to be no doubt that children are getting fatter throughout the country as a whole, (reference 11).

13. A special report by Sir Allen Daley quoted in the Health of the School Child, Annual Report of the Chief Medical Officer of the Ministry of Education for 1948 - 1949 dealt with the heights and weights of school pupils in London in 1949.

Dealing with the interdependence of height and weight Sir Allen says with regard

to the relationship of weight to height generally, a striking feature of the changes of the averages over the past 10 years is the fact that the change in weight has been proportionate with the change in height so as to leave the ratio of weight to height in each age group almost unchanged. The fact that bone and flesh have kept pace with each other despite substantial changes in the absolute value of the height and weight suggests that with improved nutrition in school children Nature has maintained her own balance, that children of today are not merely heavier or merely taller than their parents were but are members of a generation altogether of greater physique.

Sir Allen's summary is as follows:

1. Between 1928 and 1949 the average height of London School children increased by about 2 cm ($\frac{3}{4}$ ") and the average weight increased by about 0.8 kilogrammes ($1\frac{1}{2}$ lbs).

2. Despite these substantial changes the pre-war relationship between weight and height was generally maintained. By pre-war scales of growth post-war children appear 3 months older than their true ages.

3. Though the greatest improvement has been in those districts which were above average in 1938, there has been a definite improvement in the worst areas where war conditions produced greatest retardation and where it was known that progress would be most difficult to achieve.

14. Methods of weighing have by no means been standard either in Blackburn or elsewhere. The Ministry recommendation for method of weighing and measuring given below is taken from "The Health of the School Child", report of the Chief Medical Officer of the Ministry of Education for the years 1950 - 1951.

Method of weighing and measuring.

Weight should be taken in standard clothing. Boys should be weighed in pants and girls in vest and knickers, shoes should be removed. Height should be measured with the

child standing erect. Most accurate results are obtained if heels, shoulders and buttocks touch an upright wall and the child looks straight ahead so that the lower border of the orbit and the external auditory meatus are in the same horizontal plane. The child should be told to make himself as tall as possible without lifting his heels from the ground. A deep breath should be taken as this helps to bring him up to his maximum height. Height must never be measured while wearing shoes. Thin socks may be worn but thick woollen ones should be removed. Weighing and measuring machines should be regularly checked for accuracy.

15. It must be emphasized that the figures given in this comparison of the average heights and weights of 12 year old Blackburn children from 1907 to 1960 do not, and are not, intended to give a true picture of the average state of nutrition in Blackburn children since 1907. They do, however, form a basis for discussion and comment.

REFERENCES:

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5. Howard B. Meredith, Iowa Child Welfare Research Station, The State University of Iowa, Normal body measurements during growth, quoted by Stewart, H.C. and Stephenson, S.F., Physical growth and development, in Nelson Mitchell, Nelson

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7. Sir Allen Daley, Annual Report of the School Health Service, County Borough of Blackburn, 1921, page 21.
- 8, 9, 10, 11, 12 and 13. The Health of the School Child, Annual Report of the Chief Medical Officer for the Ministry of Education.
Reference 8, 1956 - 1957 report, page 68, quoting Chief Medical Officer, Ministry of Education.
Reference 9, 1956 - 1957 report, page 69, quoting Boyne, Aitken and Leitch,
Reference 10, 1956 - 1957 report, page 70, quoting Dr. D. C. Lamont.
Reference 11, 1956 - 1957 report, page 72, quoting Boyne, Aitken and Leitch.
Reference 12, 1948 - 1949 report, page 9, quoting Sir Allen Daley.
Reference 13, 1950 - 1951 report, page 61, quoting the Chief Medical Officer, Ministry of Education.

(Height in inches, Weight in pounds)

FROM 1907 TO 1927. (12 YEARS OLD AT THE TIME OF EXAMINATION)

52

1914	54.0	-	-	54.0	-	72.1	-	-	72.3	-	-
1915	53.8	-	-	54.3	-	70.5	-	-	70.9	-	-
1916	53.7	-	-	53.0	-	70.9	-	-	69.2	-	-
1917 - 1920	NO DATA AVAILABLE										
1921	55.5	54.88	101.1	57.2	55.4	73.3	72.66	100.8	80.0	73.86	108.3
1922 - 1923	NO DATA AVAILABLE										
1924	54.8	55 +	-	55.3	55.6	72.0	73 +	-	76.7	73.9 +	-
1925	NO DATA AVAILABLE										
1926	53.95	-	-	53.77	-	70.65	-	-	69.36	-	-
1927	53.60	-	-	53.66	-	70.0	-	-	68.74	-	-

KEY: HT = Half-timer. HTC = Half-timer in cotton. OHT = Half-timer in other trades.
NHT = Non Half-timer. + Greenwood's standard. # = Measurements boys and girls combined.

TABLE 2.

A Comparison of the Heights and Weights of
Blackburn Boys and Girls who were 13 years old
in the year of examination
from 1928 to 1938.

(Height in inches)

(Weight in pounds)

DATE	H E I G H T		W E I G H T	
	BOYS	GIRLS	BOYS	GIRLS
1928	53.6	53.8	69.8	69.6
1929	54.9	54.9	75.7	76.1
1930	55.2	55.5	76.0	79.2
1931	55.5	55.8	77.5	77.8
1932	55.1	55.7	76.3	77.3
1933	55.7	56.6	77.7	79.5
1934	55.5	56.6	77.5	79.6
1935	55.8	55.9	73.9	70.9
1936	51.1	56.4	76.0	80.1
1937	56.4	57.1	80.5	81.6
1938	56.3	56.7	80.0	78.9

1939 - 1946 No data available

TABLE 3.

A Comparison of the Heights and Weights of
Blackburn Boys and Girls who were 12 years old
in the year of examination
from 1947 to 1960

(Height in inches)

(Weight in pounds)

DATE	H E I G H T		W E I G H T	
	BOYS	GIRLS	BOYS	GIRLS
1947	54.25	54.75	72.5	73.25
1948	55.0	54.5	74.0	72.0
1949	55.5	54.75	74.5	71.5
1950	54.0	55.25	74.5	73.75
1951	53.25	52.25	74.5	60.25
1952	56.0	54.25	75.0	76.0
1953	55.25	55.25	75.5	73.25
1954	See note 4			
1955	55.0	55.5	76.0	75.0
1956	See note 4			
1957	See note 4			
1958	56.5	55.75	77.75	79.0
1959	55.5	56.5	77.75	77.5
1960	54.5	55.75	78.75	76.75

TABLE 4.

A Comparison of the Average Heights and Weights of 12 year old
Blackburn Children for the Years 1958 - 1960 with those of
Comparable Children in Exeter and Liverpool
and with values taken from standard tables.

	AGE	B O Y S		G I R L S	
		INS.	LBS.	INS.	LBS.
BLACKBURN COUNTY BOROUGH Average measurements 1958-1960 of 1,464 children (727 boys, 737 girls +)	12 years in year of exam	55.5	78.1	56.0	77.75
COUNTY OF LONDON Average measurements 1959	12½ years	59.0	92.0	59.75	96.75
EXETER CITY AND COUNTY Average measurements 1960	12 - 13	57.8	86.9	57.9	86.4
LIVERPOOL CITY Average measurements 1955-1957	12 years in year of exam.	57.0	83.7	57.6	87.0
STANDARD VALUES (IOWA)	12 years	58.9	84.4	59.8	87.6
	12½ years	60.0	88.7	60.7	93.4
STANDARD VALUES (HARVARD)	12 years	58.3	84.6	58.9	89.0
	12½ years	59.5	90.0	59.9	94.5

+ The 1,464 Blackburn children were distributed thus:

1958 245 boys 244 girls
1959 253 boys 267 girls
1960 229 boys 266 girls

Conclusions from the Comparison of Heights and Weights
of Twelve Year Old Blackburn Boys and Girls from
1907 to 1960

Do these figures of the average heights and weights of Blackburn 12 year old children reflect the true trends over the years 1907 to 1960 in this community? Although all the figures included have been considered to be representative in numbers, they are, for the reasons given above, suspect.

However, a study of the trends over the period does indicate several interesting points, even though their true statistical relevance cannot be ascertained. In considering the height of Blackburn 12 year old boys and girls over the period 1907 to 1960, one finds that there was an average fluctuation up to 1916 between approximately $53\frac{1}{2}$ and $54\frac{1}{2}$ inches. Girls were very slightly heavier than boys. There was a rise in weight in 1921 followed by a fall about 1924. In 1921 the girls' height rose to 57.2" and by 1924 it was 55.3". The 13 year old group showed an overall rise in height from 1928 up to 1938, with girls heavier than boys. However, there was a slight fall in height in girls in 1935. Furthermore, in 1936 the average height of boys took a sudden plunge to 51.1". As 450 boys were examined that year in the 13 year old age group, the figure is significant. The average height of the 535 girls examined was 56.4". The following year, 1937, the average height of boys had returned to 56.4" and of girls 57.1".

Returning to the 12 year old group in 1947, we find an initial increase in height followed by a fall in boys' height in 1950 and in girls' height in 1951. Thereafter, the girls' height rose steadily to 1959, whence it fell to the 1960 figure. The boys, after the fall in 1950, gained in height to 1952. Then they experienced a fall in average height until 1955, although, as mentioned earlier, through small numbers being examined in 1955 this figure is not truly representative. Their average height in 1958, however, was their maximum at any time over the period 1907 to 1960.

In the subsequent two years, 1959 and 1960, their average height fell progressively. On the average, boys have been taller than girls over the period 1947 to 1960, although in the last two years of the survey, girls have been an inch or more taller than the boys, even though the girls' average height fell 8/10" in 1960.

When one studies the trends in the years 1907 to 1960 in the weight of 12 year old Blackburn boys and girls there was a fluctuation in losses and gains up to 1916, ranging from approximately 69 to 73 lbs, the boys and girls being approximately the same in weight. By 1921 the average weight of the girls had risen appreciably, whereas the boys' average weight remained within the level of fluctuation between 1907 to 1916. After 1921 both the weight of boys and of girls fell, until in 1927 it was lower than in 1907 and, in the case of girls, lower than in 1916 as well. The period 1928 to 1938 is represented by the 13 year old group. Here, within this period, there was an overall rise in weight, the girls being on the whole heavier than the boys. There was, however, a drop in the weight of both boys and girls in 1935 which was subsequently compensated for. From 1947 to 1960, the 12 year old boys showed a steady gain in weight with no losses. The girls, however, showed, over the same period, a fall in weight from 1947 to 1949. In 1950, the height had risen again, but in 1951, the average weight of the girls took a rapid plunge to 60.25 lbs. This was the average value for 203 girls. The average weight for the 224 boys examined in the same year was 74.5 lbs. In 1952, the girls' average weight rose to 76.0 lbs. There was a loss in average weight in 1953, then the girls gained in average weight until 1958.

From 1958 to 1960 the girls exhibited a loss in weight. Over the period 1947 to 1960, the girls were more often below the boys in average weight and in 1960 they were two pounds lighter than the boys.

Thus it will be seen that according to this data any improvement in heights and weights between 1907 and 1927 was transitory. In 1907 boys and girls were on average 54.1" (the data for both sexes being combined) whereas in 1927 boys were 53.6" and girls 53.66". As regards weight, in 1907 boys and girls were 71.1 lbs on the average, and in 1927 boys were 70.0 lbs and girls 68.74 lbs. Over the period 1928

to 1938, 13 year old boys in this decade gained 2.7" and girls 2.9" although in 1937, boys were at their tallest in this period, with a height of 56.4", as were girls with a height of 57.1". The figures for 1938 were 56.3" for boys and 56.7" for girls.

In the same period, boys gained 10.2 lbs and girls 9.3 lbs, although again in 1937, the boys and girls had their maximum values for the period at 80.5 lbs for boys and 81.6 lbs for girls, whereas in 1938, the values were 80.0 lbs and 78.9 lbs respectively.

The twelve year olds in the period 1947 to 1960 showed a gain of 0.25" for boys, 1.0" for girls, 6.25 lbs for boys and 3.5 lbs for girls. The boys had their maximum height in this period in 1958 when the average height was 56.5" as opposed to 54.5" in 1960. Girls had their maximum height in 1959 when it was 56.5" whereas in 1960 it was 55.75". Boys showed their maximum gain in weight in this period in 1960 when the average weight was 78.75 lbs. Girls showed their maximum gain in 1958 when their average weight was 79.0 lbs, whereas in 1960 it was 76.75 lbs.

The apparent gain in both height and weight immediately after the first World War, which was not sustained, is of interest, as is the decline in weight, more marked in girls than boys, which occurred in 1935 according to the given data, coupled with a lesser noticeable decline in the same year in the height of girls but not of boys.

The marked decline in boys' height in 1936 requires explanation. Whether the post first World War increase in heights and weights indicates better attention paid to child nutrition during the first World War, and whether the 1935/6 decline is any reflection of the slump in the early nineteen thirties, it would be difficult to say, but it is possible.

Another factor of interest in this data for the 12 year olds, is that with the exception of the data for height for the last two years of the survey there is very little difference in the heights and weights of the girls as compared with the heights and weights of the boys. Does this indicate that the children from whom the data was collected were largely those in whom the adolescent growth spurt had not

occurred? If it had occurred in a good number of the group of children weighed and measured, then one would have expected the girls to have exhibited the adolescent growth spurt first. This would have been reflected by a higher weight and height in the 12 year old girls. The adolescent growth spurt will be discussed in more detail later. When one studies the data for thirteen year olds between 1928 and 1938, on the whole the girls are taller and heavier than the boys, thus suggesting that the adolescent growth spurt has manifested itself in the 13 year old girls, or more correctly, in a sufficiently high percentage of them to produce a significant difference in the values for boys and girls.

One cannot, for reasons given earlier, make direct comparisons between the three sets of data given in tables 1, 2 and 3, which contain respectively a comparison of the heights and weights of Blackburn boys and girls who were twelve years old at the time of examination (1907 - 1927), thirteen years old in the year of examination (1928 - 1938), and twelve years old in the year of examination (1947-1960). It is, however, interesting to note that whereas the average height was for a boy and girl in 1907 54.1", the average height for a boy 1958 to 1960 was 55.5" and a girl 56.0", a gain of 1.4" and 1.9" respectively. The difference in weight over the same period was 71.1 lbs in 1907 for both boys and girls, compared with an average of 78.1 lbs for a boy 1958 - 1960 and a girl 77.75 lbs, gains respectively of 7 lbs for a boy and 6.65 lbs for a girl.

Does the Blackburn Survey reflect the National Trend
in Child Growth and Development since 1907?

If one considers this data for Blackburn children in relation to secular trends in child growth and development in England since 1907 (Grime, 1963) it is observed that the Blackburn data is not truly representative of the national experience. The general overall tendency for increase in height and weight observed in Blackburn in the periods 1928 to 1938 and 1947 to 1960 is typical in that there is an increase, but not in its magnitude. More dramatic increases have been recorded elsewhere. National figures for height given in 1907 showed that Blackburn boys and girls were 2.1" below the average, but from 1910 to 1913, those boys and girls who were employed part-time in the cotton industry were consistently above the national average, those employed half-time in industries other than cotton were more often above the average national height than not, as were those at school all day. However, if we compare the weights of all three groups of boys and girls with the national average in the same period, we see they are all below it.

If one now compares recent values of heights and weights for children who were 12 years old when examined with data obtained from Blackburn children the less dramatic gain in height and weight is more obvious. If one takes the average values for heights and weights of children in Blackburn who were 12 years old in the year of examination for the years 1958, 1959 and 1960, one has the values shown in the accompanying table. These averages are those of 1,464 children composed of 245 boys and 244 girls in 1958, 253 boys and 267 girls in 1959, and 229 boys and 226 girls in 1960. These numbers can, therefore, be considered significant. If one assumes that, on the average, the child 12 years old in the year of examination will be 12½ when examined, then the figures for the latest London survey are directly comparable with the Blackburn data, as the London data is mathematically corrected to give the heights and weights exactly at the mid point between twelfth and thirteenth births.

Twelve year old children in the period 1958 to 1960 are, compared with twelve year old children in the County of London in 1959 (Scott, 1961) 3.5" shorter and 13.9 lbs lighter in the case of boys and 3.75" shorter and 19.0 lbs lighter in the case of girls. This is a marked difference in an urban population.

Similar, though less marked, discrepancies appear between the average height and weight of twelve year old Blackburn children and those in Exeter City and County and Liverpool City, as is shown in the accompanying table. Standard American figures for the same age groups taken from University of Iowa and Harvard School of Public Health data are also given. These figures have no direct relevance for English children, though widely employed for assessing English children, but are included for the sake of interest.

It is emphasised once again that the figures given in the comparison of the average heights and weights of twelve year old Blackburn children from 1907 to 1960 do not give a true picture of the average state of nutrition of the Blackburn child since 1907. Despite the inaccuracies inherent in this data, one would expect that the relationship between girls' and boys' measurements would be reasonably accurate, for if one assumes that adequate numbers of each sex were measured in each year, variability in equipment and measuring technique should affect both sexes equally, on the average.

The adolescent growth spurt is a constant phenomenon. In boys, it takes place on the average from 12½ to 15 years and in girls from 10½ to approximately 13 years. The earlier occurrence of the spurt in girls is why girls are bigger than boys from about 10½ to 13 years. (Tanner, 1961). In the Blackburn data, at no period in the twelve year age group is the girl consistently taller or heavier than the boy, in fact the boy is often the taller and heavier. This suggests that the age of puberty in the case of the Blackburn children is later than what may be considered a national average.

There is no evidence to suggest that Blackburn children are any the less healthy than comparable urban groups of children. The County Borough of Blackburn

is prosperous and even if living conditions leave, in some cases, much to be desired there is no environmental cause apparent for these discrepancies between the average height, average weight and the timing of the onset of the adolescent growth spurt (and hence puberty) in Blackburn children and other examples of urban populations that have been sited.

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Inferences drawn from the Blackburn Survey regarding two theories concerning Child Growth and Development

Despite the inaccuracies in the Blackburn data, two facts stand out clearly. Firstly, Blackburn twelve year old children are appreciably below what may be considered the national average for both height and weight and secondly, the adolescent growth spurt has not manifested itself on a sufficiently large number of twelve year old Blackburn girls to give the girls a larger average height and weight than the boys at this age, as would be expected from the average national data.

With regard to the relationship between height and weight on the one hand and sexual maturity on the other, it is suggested that the later sexual maturing of Blackburn girls suggested by the delay in the adolescent growth spurt is in favour of bigger children becoming sexually mature earlier because they are bigger, and not being bigger because they are more sexually mature. One says this because it is easier to understand girls maturing later in Blackburn because they are not as big as the average English urban child, than it is to suggest later sexual maturity as being a particular feature of Blackburn girls. Factors known to be associated with later sexual maturity such as greater number of siblings and poorer nutrition are no more prevalent in Blackburn than in urban communities where sexual maturity is earlier.

Secondly, it is suggested that the Blackburn data is compatible with and supports Dahlberg's hypothesis that stature attained as an adult is increased by outbreeding. Blackburn is a cotton town with a close-knit and distinctive community. Although similar communities are nearby, the Blackburnian retains his individual characteristics. He is much more likely to take a marriage partner from within the Borough boundary. It is suggested that this inbreeding may be a reason for the less dramatic increase in average heights of twelve year old children over the years

as compared with the national average increase. The height at twelve (as at any other age) can be expressed as a percentage of mature height. There is a direct relation between the average height at twelve and the average adult height.

Data based on a study of twenty children of each sex compiled by Bagley and Pinneau in 1952 from the Berkeley, California, Growth Study, period 1930 to 1950, gives the percentage of mature height reached at 12 years of age as 84.0% for boys and 92.6% for girls.

S U M M A R Y

1. A comparison is made between the heights and weights of twelve year old children in Blackburn from 1907 to 1960. From this data it is concluded that little improvement occurred up to 1927. Subsequently, improvement in heights and weights occurred although this trend was not consistent. Boys and girls of twelve years of age were approximately the same in height and weight.
2. Blackburn figures are related to comparable national data and two marked differences are observed:
 - (a) the average gain in height and weight since 1907 is less in Blackburn.
 - (b) there is no appreciable height and weight differential between twelve year old girls and twelve year old boys in Blackburn.
3. It is postulated that the later sexual maturing of Blackburn girls suggested by the delay in the adolescent growth spurt is in favour of bigger children becoming sexually mature earlier because they are bigger, and not being bigger because they are more sexually mature.
4. It is suggested that the Blackburn data is compatible with and supports Dahlberg's hypothesis that stature attained as an adult is increased by outbreeding.

